

## Southern Appalachian Creature Feature Podcasts

### Cold Water Species and Climate Change

Greetings and welcome to the Southern Appalachian Creature Feature.

New research on the effects of warming temperatures and stream acidity projects average habitat losses of around 10 percent for coldwater aquatic species in southern Appalachian national forests – including up to a 20 percent loss of habitat in the Pisgah and Nantahala National Forests.

The researchers, from the Forest Service, Oregon State University, and E&S Environmental Chemistry, focused on streams draining seven national forests in the southern Appalachian region, first mapping out how much of the area's current habitat is suitable for acid- and heat-sensitive animals such as the native eastern brook trout.

Of the national forests studied, the Pisgah and Nantahala in North Carolina contained the most coldwater habitat – and are predicted to have the greatest habitat losses for these acid-sensitive coldwater animals. In these forests, the combined effect of acidification in headwater streams and stream warming will restrict coldwater species such as eastern brook trout to a narrowing band of mid-level stream reaches, increasing the likelihood these animals will disappear locally and possibly regionally.

Forest managers and aquatic biologists can use the study's data on specific streams for restoration planning and to assess the need for intervention in stream reaches that are vulnerable to warming, acidification, or both.

For WNCW and the U.S. Fish and Wildlife Service, this is Gary Peeples.